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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,040	09/16/2005	Philipp Huemer	14219-083US1 P2002.0763 U	2757
26161 7590 04/25/2008 FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022				
EXAMINER PATEL, DHARTI HARIDAS				
ART UNIT 2836		PAPER NUMBER		
MAIL DATE 04/25/2008		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/528,040

Applicant(s)

HUEMER ET AL.

Examiner

DHARTI H. PATEL

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/17/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-22 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-22 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB008)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date _____
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8-13, and 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuki et al., Patent No. 6,188,307, in view of Walsh et al., Publication No. 2002/0089408.

With respect to claim 1, Katsuki discloses an assembly [Fig. 5; col. 1 lines 9-13] comprising a first electrical component [Fig. 5, 25] having a first electrical polarity; a second electrical component [Fig. 5, 26] having a second electrical polarity, the first electrical property and the second electrical property being substantially identical [abstract lines 6-8; both thermistors 25 and 26 have resistance]; a housing [Fig. 5, 21] that holds the first electrical component [Fig. 5, 25] and the second electrical component [Fig. 5, 26]; first terminals [Fig. 5, 30] on the housing that contact the first electrical component [Fig. 5, 25]; and second terminals [Fig. 5, 31] on the housing that contact the second electrical component [Fig. 5, 26]; wherein the housing has an underside [Fig. 5, bottom of housing 21]; wherein all terminals [Fig. 5, 30 and 31] of the assembly [Fig/ 1, 21] are on the underside of the housing for surface-mounting the assembly [The apparatus is designed to be surface mounted to communication equipment such as telephone exchanges, which typically comprises electronics mounted on circuit boards];

and wherein the terminals have an arrangement that corresponds to an arrangement of contacts on a printed circuit board [Fig. 5; it is inherent that the terminals are printed circuit board connectable in the inline arrangement]. However, Katsuki does not disclose that the housing has an upper side that completely covers the first electrical component and the second electrical component and that protects the first electrical component and the second electrical component from contact voltage.

Walsh discloses an electrical device to be used in communication application. Walsh discloses an assembly [Fig. 2; 21] comprising a first electrical element [Fig. 2, PTC 26] having a first electrical property [resistance; par. 5; lines 4-5]; a second electrical component [Fig. 2, PTC 28] having a second electrical property, the first electrical property and the second electrical property being substantially identical; a housing [Fig. 2; 33] that holds the first electrical component [Fig. 2, 26] and the second electrical component [Fig. 2; 28]; wherein the housing has an upper side [Fig. 2; top surface of the insulating layer box 33; par. 0067] that completely covers the first electrical component [Fig. 2, 26] and the second electrical component [Fig. 2, 28] and that protects the first electrical component and the second electrical component from a contact voltage.

Katsuki and Walsh are analogous electrical devices used for protecting communication equipments. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Walsh's housing, with Katsuki's assembly, for the benefit of providing electrical insulation and mechanical protection,

and for use with devices exposed to high voltage conditions in which arcing from one electrode to the other may occur [Walsh, par. 0009].

With respect to claim 2, Katsuki discloses that the first electrical component [Fig. 1, 5] and the second electrical component [Fig. 1, 6] comprise thermistors [col. 3 lines 65-67, abstract lines 3-4], and the first electrical property and the second electrical property comprise a first resistance and a second resistance, respectively, at a predefined temperature [col. 6 lines 32-35].

With respect to claim 3, Katsuki discloses that predefined temperature is 25 degrees Celsius [col. 6 lines 32-35].

With respect to claim 4, Katsuki discloses that the first resistance and the second resistance deviate by no more than 1 ohm [abstract lines 6-8, col. 1, lines 22-24].

With respect to claim 5, Walsh discloses that a shape of the upper side is indicative of an orientation of the housing [Fig. 2 shows that the housing 33 is rectangle, and the upper side has to be rectangular too to match with the housing].

With respect to claim 6, Walsh discloses that the upper side of the housing is rectangular in shape [Fig. 2, housing 33 is rectangular as shown].

With respect to claim 8, Walsh discloses that the upper side of the housing is closed [Fig. 2, the upper side of the housing 33 is closed as shown].

With respect to claim 9, Katsuki teaches that the housing comprises a partition [Fig. 5, 21c] made of electrically insulating material, the partition being between the first and second electrical components [Fig. 5, 25, 26], the partition acting as flashback

protection between the first and second electrical components [Col. 5, lines 39-41, Fig. 1, 15, Col. 4, line 2, Col. 4, lines 21-24].

With respect to claim 10, Katsuki teaches that the housing [Fig. 5, 21] comprises plural sides, at least one side of the housing being closed [Fig. 5, 21; upper side of housing 21 is closed].

With respect to claim 11, Katsuki teaches that the housing comprises a material that is substantially inflammable [col. 4 lines 3-7, the definition of thermoplastic resin is the material that offers high resistance to heat].

With respect to claim 12, Katsuki teaches that the first and second terminals [Fig. 5, 30 and 31] are configured for surface mounting of the assembly [Fig. 5, 21] as disclosed in Fig. 5.

With respect to claim 13, Walsh discloses a circuitry [Fig. 4] comprising a first data transmission line [Fig. 4, the top data line]; a second transmission line [Fig. 4, the bottom data line]; a data terminal connected to the first and second data transmission lines [par. 0069]; and an assembly [Fig. 4, made up of two thermistors 53 and 55] that connects a printed circuit board [par. 0014, lines 7-8 indicates that the thermistors are mounted on a PCB] to the first and second data transmission lines [Fig. 4, top and bottom data lines], the assembly comprising a first electrical component [Fig. 4, 53] having a first electrical property [resistance; par. 0005, lines 4-5]; and a second electrical component [Fig. 4, 55] having a second property [resistance], the first electrical property and the second electrical property being substantially identical; a housing [Fig. 2; 33] that holds the first electrical component [Fig. 2, 26 or Fig. 4, 53] and

the second electrical component [Fig. 2, 28 or Fig. 4, 55]; wherein the first electrical component [Fig. 4, 53] connects the first transmission line [Fig. 4; the top data line] to the printed circuit board, and the second electrical component [Fig. 4, 55] connects the second transmission line [Fig. 4, the bottom data line] to the printed circuit board [par. 0014, lines 7-8]; wherein the housing [Fig. 2; 33] has an upper-side [Fig. 2; top surface of insulating box 33]; wherein the housing has an upper side [Fig. 2; top surface of the insulating layer box 33; par. 0067] that completely covers the first electrical component [Fig. 2, 26] and the second electrical component [Fig. 2, 28] and that protects the first electrical component and the second electrical component from a contact voltage. However, Walsh does not disclose first terminals and second terminal on the housing that contact the first electrical component and the second electrical component respectively.

Katsuki teaches an overcurrent-protection thermistor apparatus for protecting communications equipment. Katsuki teaches a housing [Fig. 5, 21] that holds the first electrical component [Fig. 5, 25] and the second electrical component [Fig. 5, 26]; first terminals [Fig. 5, 30] on the housing that contact the first electrical component [Fig. 5, 25]; and second terminals [Fig. 5, 31] on the housing [Fig. 5, 21] that contact the second electrical component [Fig. 5, 26], wherein the housing has an underside [Fig. 5, bottom of housing 21]; wherein all terminals of the assembly are on the underside of the housing for surface-mounting the assembly [The apparatus is designed to be surface mounted to communication equipment such as telephone exchanges, which typically comprises electronics mounted on circuit boards]; wherein the first and second

terminals [Fig. 5, 30 and 31] have an arrangement that corresponds to an arrangement of contacts on a printed circuit board [It is inherent that terminals 30-31 are printed circuit board connectable in the inline arrangement shown in Fig. 5].

Both teachings are analogous protection housings for telecommunication equipment. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Katsuki and Walsh for the widely known benefit of protecting sensitive telecommunications equipment from damage due to dust, moisture, and protection against mechanical intrusions; as well as to protect users from any possible shock hazard from exposed circuits.

With respect to claim 15, Katsuki discloses that the first electrical component [Fig. 1, 5] and the second electrical component [Fig. 1, 6] comprise thermistors [col. 3 lines 65-67, abstract lines 3-4], and the first electrical property and the second electrical property comprise a first resistance and a second resistance, respectively, at a predefined temperature [col. 6 lines 32-35].

With respect to claim 16, Katsuki discloses that predefined temperature is 25 degrees Celsius [col. 6 lines 32-35].

With respect to claim 17, Katsuki discloses that the first resistance and the second resistance deviate by no more than 1 ohm [abstract lines 6-8, col. 1, lines 22-24].

With respect to claim 18, Katsuki teaches that the housing [Fig. 1, 1] comprises a partition [Fig. 1, 15] made of a material that is substantially electrically insulating [Col. 4,

line 2], the partition [Fig. 1, 15] being between the first and second electrical components [Fig. 1, 5 and 6].

With respect to claim 19, Walsh discloses that the first data transmission line [Fig. 4, top data line] and the second data transmission line [Fig. 4, bottom data line] comprise telephone lines [par. 0006].

With respect to claim 20, Walsh further comprises the printed circuit board, the assembly [Fig. 4, made up of two PTC elements 53 and 55] being mounted on the printed circuit board [par. 0014, lines 7-8] via the first and second terminals and the contacts on the printed circuit board.

With respect to claim 21, Katsuki teaches that the terminals [Fig. 5, 30 and 31] are arranged in such a way that the assembly can only be inserted on the printed circuit board in a certain orientation [It is inherent that terminals 30 and 31 are printed circuit board connectable in a certain orientation in the inline arrangement].

With respect to claim 22, Katsuki teaches that the terminals [Fig. 5, 30 and 31] are arranged in a first row of terminals [Fig. 5, first row made up of terminals 30] and a second row of terminals [Fig. 5, second row made up of terminals 31], wherein the second row of terminals is shifted in a horizontal direction with respect to the first row terminals.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuki et al., Patent No. 6,188,307, in view of Walsh et al., Publication No. 2002/0089408, as applied to claims above, and further in view of Smith et al., Patent No. 292,089.

Katsuki and Walsh disclose that the assembly further comprises an upper side, but does not disclose that the upper side of the housing comprises a planar section.

With respect to claim 14, Smith teaches that the upper side [Fig. 6] of the housing comprises a planar section. Applicant's acknowledged prior art teaches that it is well known to use an automated component insertion machine to separately connect two matched thermistors to the respective telephone lines of a telephone connection on a printed circuit board [Page 2, lines 12-14].

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuki et al., Patent No. 6,188,307, in view of Walsh et al., Publication No. 2002/0089408, as applied to claims above, and further in view of Bach, Publication No. US 2002/0172259.

Katsuki and Walsh both disclose a housing, but does not disclose that the housing comprises a liquid crystal polymer (LCP) material.

Bach teaches a temperature sensor enclosed in housing, and that that the housing comprises a liquid crystal polymer (LCP) material [page 3 par. 0026].

Katsuki and Bach disclose a temperature-measuring device inside a housing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Bach's temperature sensor in a housing made out of LCP, with Katsuki's assembly of temperature sensors, because liquid crystal polymer materials have excellent thermal, electrical insulation properties and mechanical properties, as well as short injection molding times [Bach, par. 0026 – 0029].

Response to Arguments

Applicant's arguments filed 03/17/2008 have been fully considered but they are not persuasive.

Applicant argues on pages 7 and 10 of the REMARKS regarding independent claims 1 and 13 that it would not have been obvious to combine Katsuki and Walsh in the manner suggested in the Office Action, and that if Walsh's insulating layer/box 33 were substituted for Katsuki's case 21, the foregoing assembly benefits described in Katsuki would not result since Walsh's insulating layer/box would not provide access to the components in cavities 21a and 21b, and cites col. 6 lines 63 to col. 7 lines 2 in support of this.

The examiner does not agree with this assessment, because the "smooth assembling ...due to cracks or chips occurring when the devices are handled can be prevented" is not mentioned with respect to a partially opened cavity. There is nothing here to suggest that Katsuki desires to have the cavity open or partially open for any benefit whatsoever. Contrary to this line of reasoning- In the paragraph cited by the applicant, Katsuki goes on to say that "Furthermore, **foreign matter is unlikely to enter the case 21** since laser trimming is used." This is a clear suggestion that Katsuki is concerned with dirt/debris entering the case, and serves as additional motivation to totally enclose the Katsuki's apparatus entirely in a housing, as taught by Walsh. Therefore, it would have been obvious to one of ordinary skill in the art to enclose Katsuki's apparatus in a housing as taught by Walsh, for the benefit of keeping dirt out.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DHARTI H. PATEL whose telephone number is (571)272-8659. The examiner can normally be reached on 7:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2800, Ext. 36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Sherry/

Supervisory Patent Examiner, Art Unit 2836

/Dharti H Patel/

Examiner, Art Unit 2836

04/23/2008